

Nomenclature and acid/base chemistry for CHEM 2740

You are expected to know the names and formulas of the following ions:

- all monatomic ions
- hydroxide (OH^-), ammonium (NH_4^+), cyanide (CN^-)
- phosphate (PO_4^{3-}), sulfate (SO_4^{2-}), carbonate (CO_3^{2-}), nitrate (NO_3^-)
- all protonated derivatives of the above, e.g. the hydrogen phosphate ion (HPO_4^{2-}) and dihydrogen phosphate ion (H_2PO_4^-)

You are expected to know the names and formulas of the following common acids:

- all the hydrohalic acids
- phosphoric acid (H_3PO_4), sulfuric acid (H_2SO_4), carbonic acid (H_2CO_3), nitric acid (HNO_3)

You should also know that the following are strong acids: HCl , HBr , HI , H_2SO_4 (first proton only), HNO_3 .

Most of the common bases are hydroxides, or conjugate bases of acids (including organic acids), as well as ammonia (NH_3) and organic amines.

This is not an exhaustive nomenclature list. You should generally be able to decode the names of compounds to the level expected in CHEM 2000. That includes ionic and molecular compounds. While I expect you to recognize very simple organic compounds (methane, ethanol), I will provide formulas for any nontrivial organic compounds.